CAUTION

READ THIS MANUAL CAREFULLY TO DIAGNOSE TROUBLE CORRECTLY BEFORE OFFERING SERVICE .

Chest Freezer

SERVICE MANUAL

MODEL: BD-103GC

Features:

1.Deep and quick freezing.

2. Square cabinet and square lid.

3. Mechanical temperature control with power indicator.

4. High pressure foam cover for efficient Temperature preservation.

5. Eximious water disposal device.

6. Wide climate zone design.

Haier Group

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SAFTY RECAUTIONS

Read all of the instructions before using this appliance. When using this appliance, always exercise basic safety precautions, including the following:

1. Use this appliance only for its intended purpose as described in this uses and care guide.
2. This freezer must be properly installed in accordance with the installation section. Instructions before it is used, See grounding instructions in the installation section.
3. Never unplug your freezer by puling on the power cord, Always grasp the plug firmly and pull straight out from the outlet.
4. Repair or replace immediately, all electric service cords that have become frayed or otherwise damaged, Do not use a cord that shows cracks or abrasion damage along its length, the plug or the connector end.
5. Unplug your freezer before cleaning or before making any repairs, Note: If for any reason this product requires service, we strongly, recommend that a certified technician perform the service.
6. If your old freezer is not being used, we recommend that you remove the door and leave the shelves in place; this will reduce the possibility of danger to children.
7. This freezer should not be recessed or built-in an enclosed

Cabinet. It is designed for freestanding installation only

8. Do not operate your freezer in the presence of explosive fumes.

9. Do not refreeze foods, which have been thawed completely.

9. Do not use any electrical device or any sharp instrument in defrosting your freezer.

10.

WARNING : Keep ventilation Openings,in the appliance enclosure or in the built-in structure,clear of obstruction.

WARNING : Do not use mechanical devices or other means to accelerate the defrosting process other than those reconnended by the manufacturer

WARNING : Do not damage the refregerant circuit

WARNING : Do not use electrical appliances inside the food storage compartments of the appliance, unless they are of the type recommended by the manufacturer

SPECIFICATIONS

CHEST FREEZERS		New!!!
Superfast freeze function. **Adjustable temperature control with power indicator.** **High pressure and microbiological foam filled door for energy conservation.** **convenient water drain.** **Hi-temp indicator.** **castors.** **External controls.** **0%HFC, 0%CFC.** **Comply with RoHS.**		
Type Model		**BD-103GC**
Commercial brand		**Haier**
Product description		**Chest Freezer**
Type of appliance (FS=free standing / BI= built-in)		**FS**
Energy efficiency class		**C**
Climate class (N=16-32℃ ST=16-38℃ T=18-43℃)		**ST**
Freezer star rating		***/*****
Approvals (VDE / TÜV / IMQ / NF / ÖVE / DEMKO etc.)		**CE/GS**
Certifications		**-**
Key features		
Gross capacity	l	**104**
Total net capacity	l	**103**
Freezing capacity（kg/24h）	kg/24h	**9**
Energy consumption/year	kWh/year	**240**
Max storage time at breackdown	h	**13**
Defrosting (Manual-Automatic)		**Manual**
Kind of coolant *(R134a/R600a)*		**R600a**
Foaming components *(R141b/C-P)*		**C-P**
Technical data		
Voltage / frequency	V/Hz	**220-240~ / 50**
Input power / currency	W /A	**75/0.8**
Lenght of cable / incl. plug	cm	**150/155**
Temperature range (from>to)	°C	**≤ -18**
DIN 8950 resp. 8953		**-**
Energy consumption / year	kWh/year	**240**
Energy consumption (EN153) per 24 h	kWh/24 h	**0.66**
Cooling system: (K=Compressor / A=Absorbtion)		**K**
Maximum noise level	dB(A)	**45**

Aesthetics		
Door		**Flat**
Chest		**straight edges**
Colours:		
Cabinet		**white**
Top		**white**
Door glass		**-**
Door frame		**white**
Fascia panel / Handle (w/b/g/s)		**white/white(pocket)**
Inside door/-drawers (W=white T=transparent)		**-/-**
Equipment & accessories		
Product classification (Super eco/Eco/Standard)		**Standard**
Lid (Number/Handle/Lock)		**1/●(pocket)/-**
Type of lid (Hinge/Counter balanced/Sliding)		**Hinge(plastic)**
Inside walls (Stainless steel/Aluminium/Synthethic mat.)		**Aluminium**
Insulation Lid thikness	cm	**7**
Walls thikness	cm	**6.5**
Baskets number	n°	**1 (metal)**
Defrost drain		●
Interior light		**-**
Calendar		**-**
Adjustable thermostat		●
Fast freeze lamp (yellow)		●
On light (green)		●
Breakdown light (red)		●
Fast freeze switch		●
Freezer temperature warning indicator (LED / by sound)		**-**
Thermometer (Outside / In partition)		**-**
Maximum loading level marking		**-**
Adjustable feet (front / rear)	n°	**-(unable adjustable feet)**
Mobility wheels (front / rear)	n°	**-**
Flush back skin evaporator		**-**
Product net dimensions		
Unit dimensions ***(H / W / D)***	cm	**84.5/57/55**
Height with open lid	cm	**134.5**
Net weight	kg	**31**
Packing dimensions & loadability		
Packing dimensions ***(H / W / D)***	cm	**89/62.5/58.5**
Gross weight	kg	**34**
20 ' container load	pcs	**76**
40 ' container load	pcs	**152**
40 ' High cube container load	pcs	**227**

INATALLATION AND ACCESSORY PARTS

Unpacking Your Freezer

1.Remove all packaging material; this includes the foam base and all adhesive tape holding the freezer accessories inside and outside.

2.Inspect and remove any remains of packing, tape or printed materials before powering on the freezer.

Adjusting Your Freezer

1.Your freezer is designed for freestanding installation only. It should not be recessed or built-in.

2.Place the freezer on a floor strong enough to support it fully loaded.

3.When moving the freezer, never tilt it more than a 45-degree angle. This could damage the compressor and the sealed system.

4.If the freezer is tilted let it stand in an upright position for at least 24 hours prior to plugging. This is to allow the refrigerant to settle.

• Proper Air Circulation

- To assure your freezer works at the maximum efficiency it was designed for, you should install it in a location where there is proper air circulation,
- Plumbing and electrical connections.
- The following are recommended clearances around the freezer:

Sides……..2”(50mm)

Top. ……2”(50mm)

Back……..2”(50mm)

- Do not over fill freezer for proper internal air circulation.

Electrical Requirement

- Make sure there is a suitable power Outlet with proper grounding to power the freezer.
- Avoid the use of cutting off the third grounding , this is a dangerous practice since it provides no effective grounding for the freezer and may result in shock hazard.

Install Limitations

- Do not install your freezer in any location not properly insulated or heated e.g. garage etc,
- Select a suitable location for the freezer on a hard even surfaces away from direct sunlight or heat source e.g. radiators, baseboard heaters, cooking appliances etc, Any floor unevenness should be corrected.

Operating Your Freezer

Once the freezer is in its proper place, plug it in an electrical outlet having 230 volts.

Set the temperature, on the temperature contrail knob.”min”being the warmest and “max”being the coldest. Initially set the temperature on”medium”. Place food inside the freezer After using the freezer for 24 hours set the freezer to your desired setting.

In case you unplug your freezer or experience an electrical outage, allow 5

Minutes before plugging it back in.

(Note: If the freezer has been placed in a horizontal or tilted position for any period of time wait 24 hours before plugging the unit in.)

Food Storage Basket

Your Freezer has 1 or 2 removable basket. It allows you to store food more accessibly or you can remove it if not needed.

Defrosting and Draining The Freezer

• Defrost whenever the frost becomes 5MM thick. Never use a sharp or metallic instrument to remove the frost as it may damage the cooling coils.(A punctured coil will void the warranty)

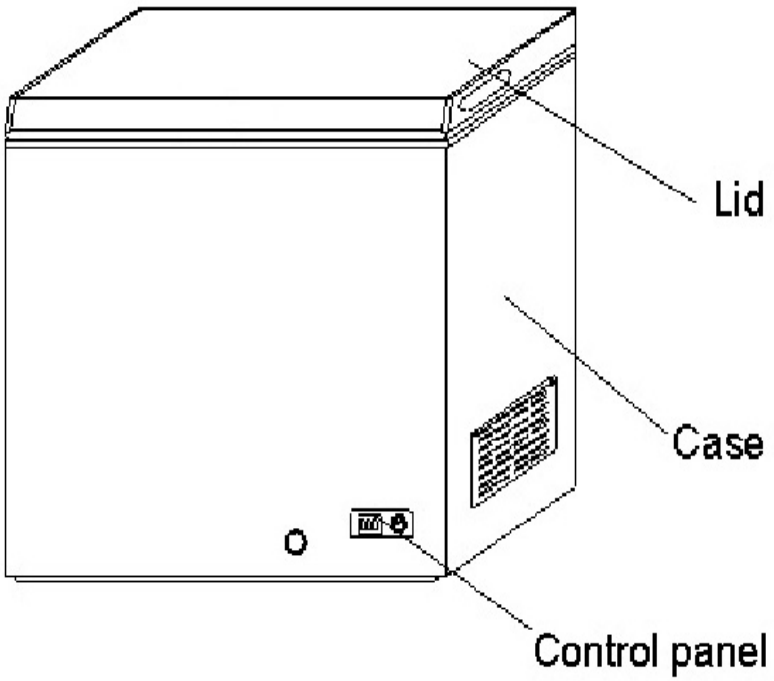
•unplug the unit. For draining, place a tray beneath the outer drain plug. Pull out the drain dial and rotate it so that the arrow points down ward. This will let the water flow out into the tray.

• Remove the drain plug from the inside of the freezer. Defrosting usually takes a few hours. To defrost faster keep the freezer door open. When done, push the drain dial in and turn the arrow to the up position. Re-plug the drain plug inside the freezer compartment. Note: monitor the container under the drain to avoid overflow.

• Wipe the interior of the freezer and replace the electrical plug in the electrical outlet.

• Rest the temperature control to the desired setting.

PARTS IDENTIFICATIONS

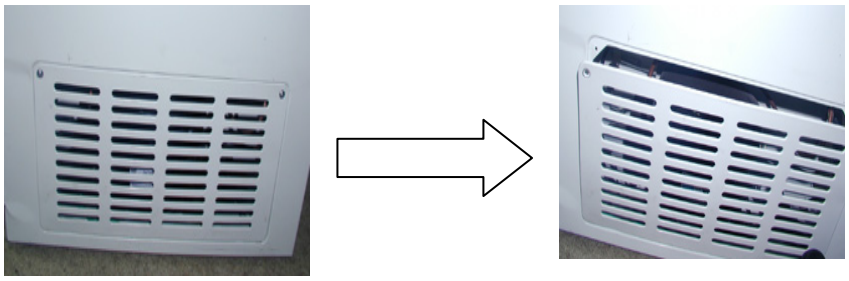


DISASSEMBLY

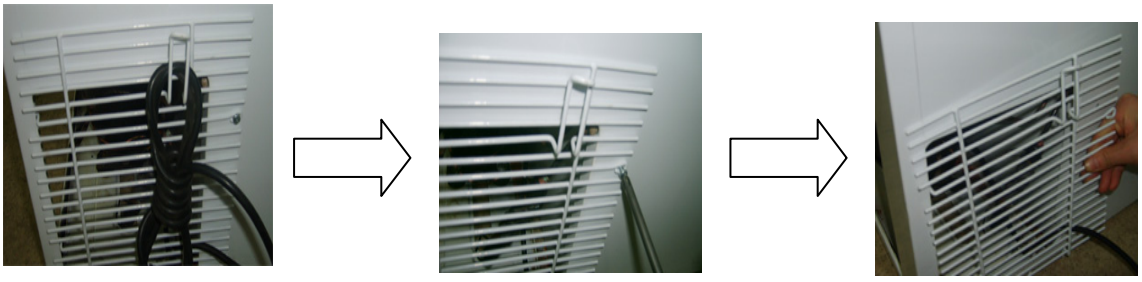
①Assembly and disassembly should be done after the plug is pull out of the socket

②It should be down as instructed in the Explosive Review.

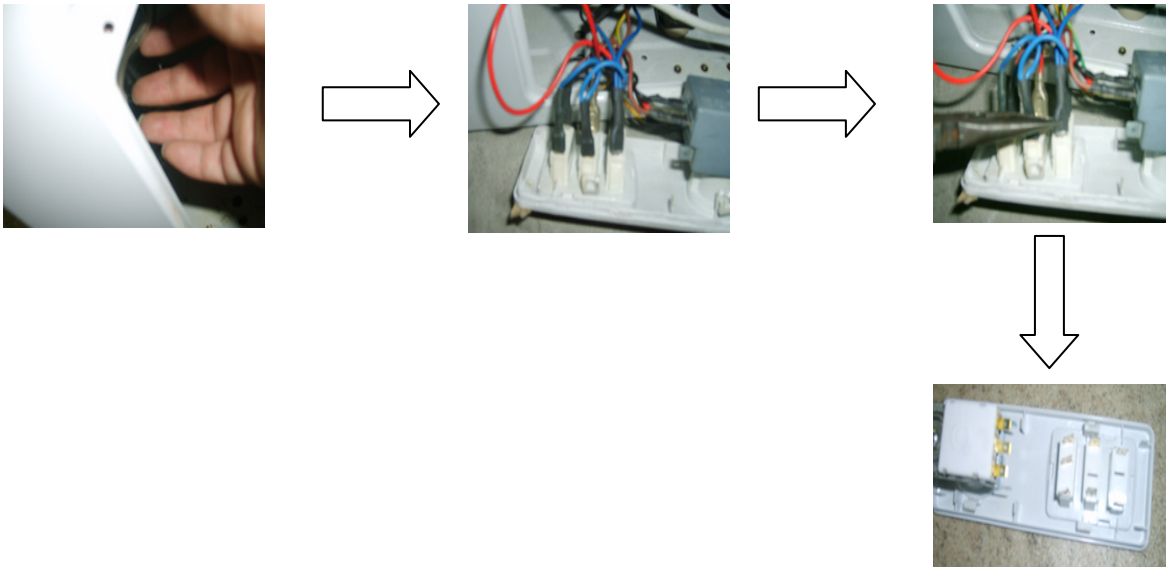
③Disassemble the Compartment grill: With the crossed screwdriver to turn the screw in a anticlockwise manner, it could be disassembled easily.



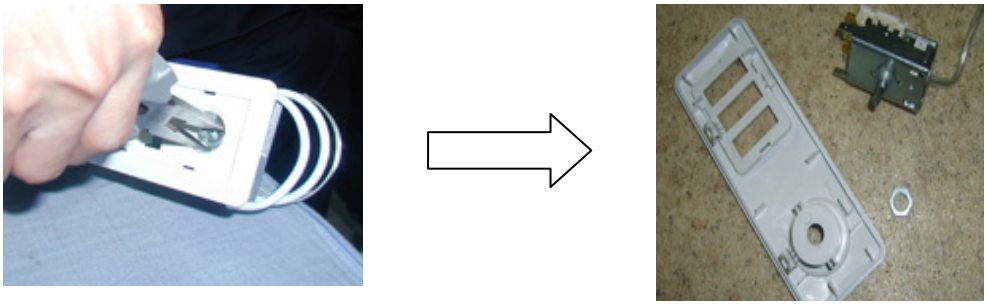
④Disassemble the compressor cover: With the crossed screwdriver to turn the screw in an anticlockwise manner, and take it out from the lower left to the upper right.



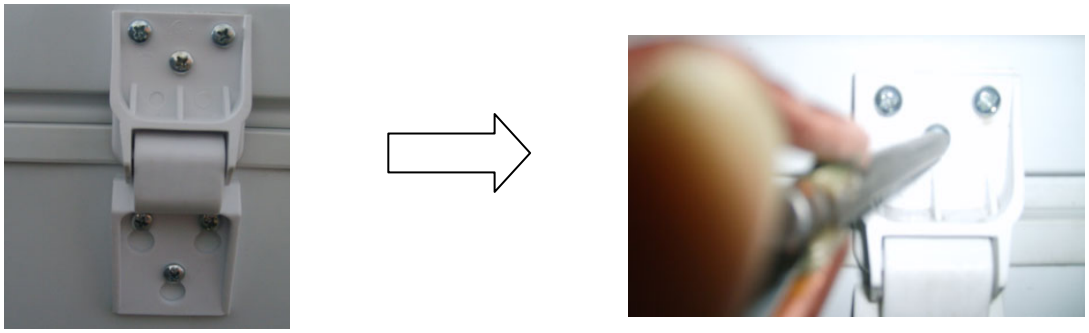
⑤Disassemble the control panel: stretch your arm into the compartment, push the connector inside, when the clip falls off the cabinet, take off the control panel and the connective wire cord with an acutilingual plier.



⑥Disassemble the thermostat: take off the knob of the thermostat, and turn the nut anticlockwise with a pinchers or clamp ,then it could be moved.

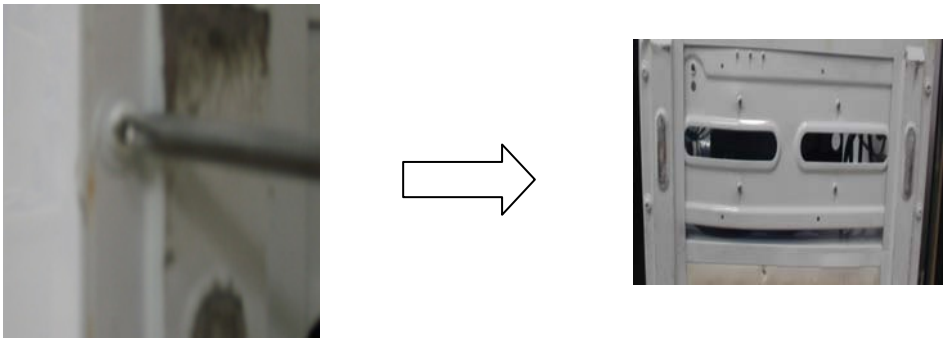


⑦Disassemble the hinge assembly and the hinge cover: screw off the two screws on the hinge cover, take away the cover, then screw off the eight screws on the bottom hinge, so the whole hinge could be moved.



⑧Move away the compressor: First take off the compressor cover, and the wire cord. Open the pipe with the plier to let out the coolant, then pull out the discharge and the suction after heated by gas jointing.

⑨Disassemble the compressor sole plate: turn off the four screws of the compressor sole plate with a cross screw anticlockwise, then take away the plate from the sideway.



Function Schedule

Adjustable temperature dial:

Your freezer will automatically maintain the temperature level you select. The temperature level you select.

Min is the warmest,

Max is the coldest.

We recommend a medium setting Do not adjust your freezer frequently

green = CONTROL

The green control light must always be on when the is very important to pay attention to this, because in the appliance is connected to the mains and switched on. It event of a power failure, the red and yellow lights stop operating and do no longer provide a warning.

red = ALARM

If the red indicator-light goes on, there may be several reasons for this,

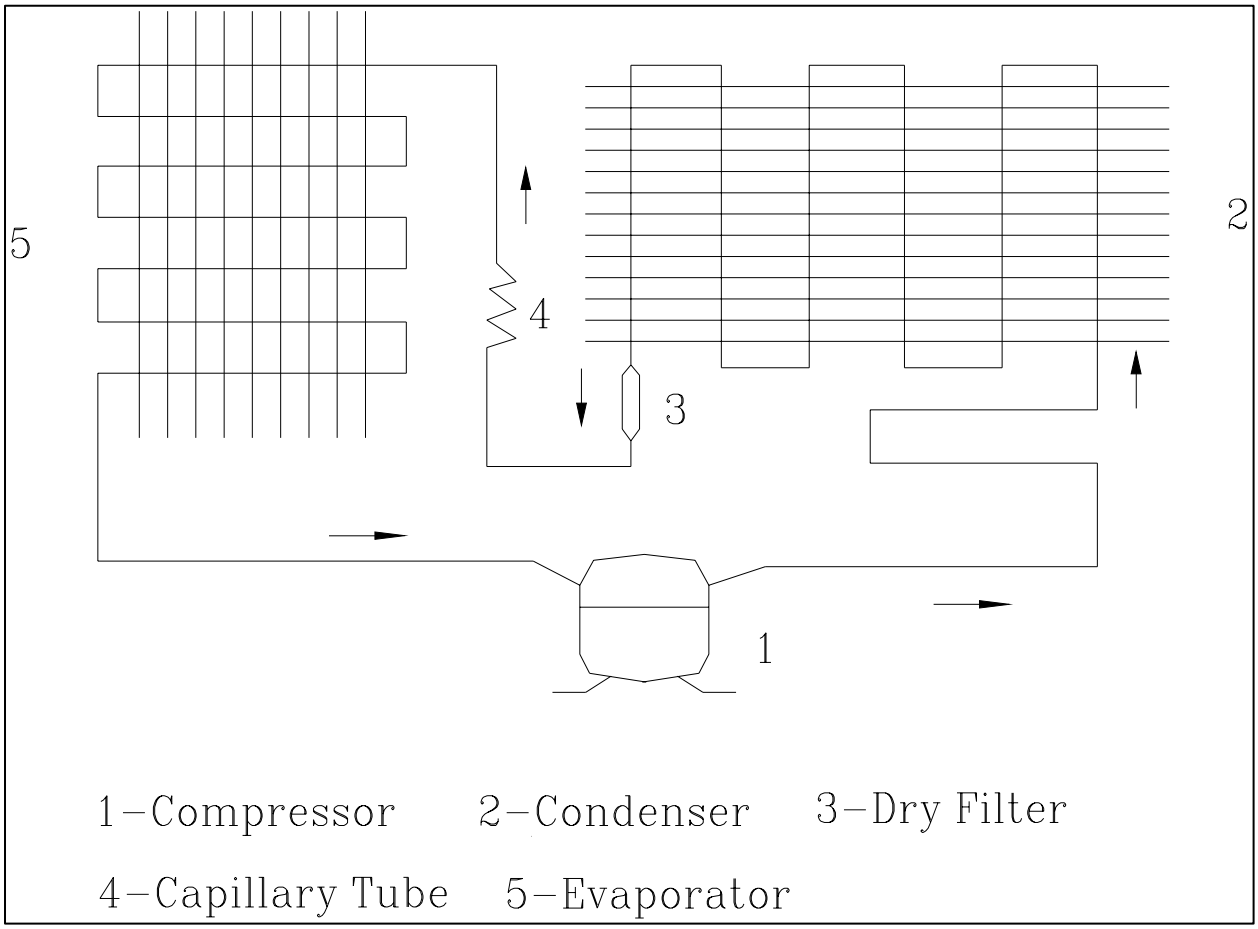
namely:

First start-up of appliance Restart after defrosting Filling freezer with fresh food In these cases it is normal that the red indicator-light goes on. It goes off automatically when the interior temperature reaches approximately –15°C.

yellow = SUPER FREEZE SWITCH

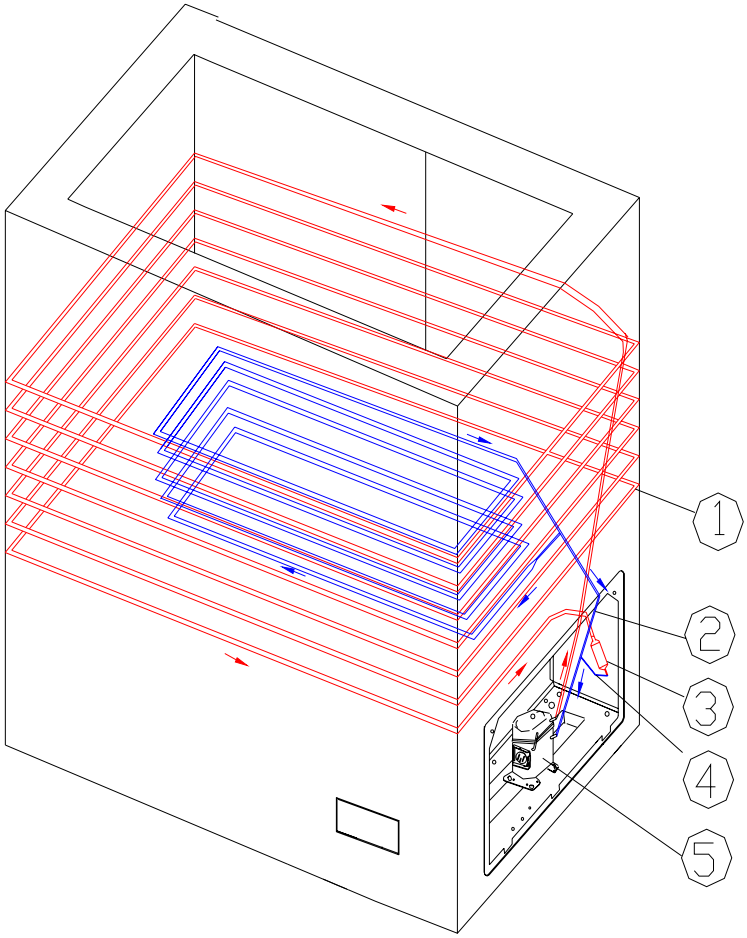
The compressor continues cooling until the SUPER FREEZE switch is turned off again.

SYSTEM FLOW CHART



The refrigeration system of direct cooling single-system freezers belongs to the category of a single-temperature and single-control refrigerating system with only one evaporator and is controlled by a single temperature control.

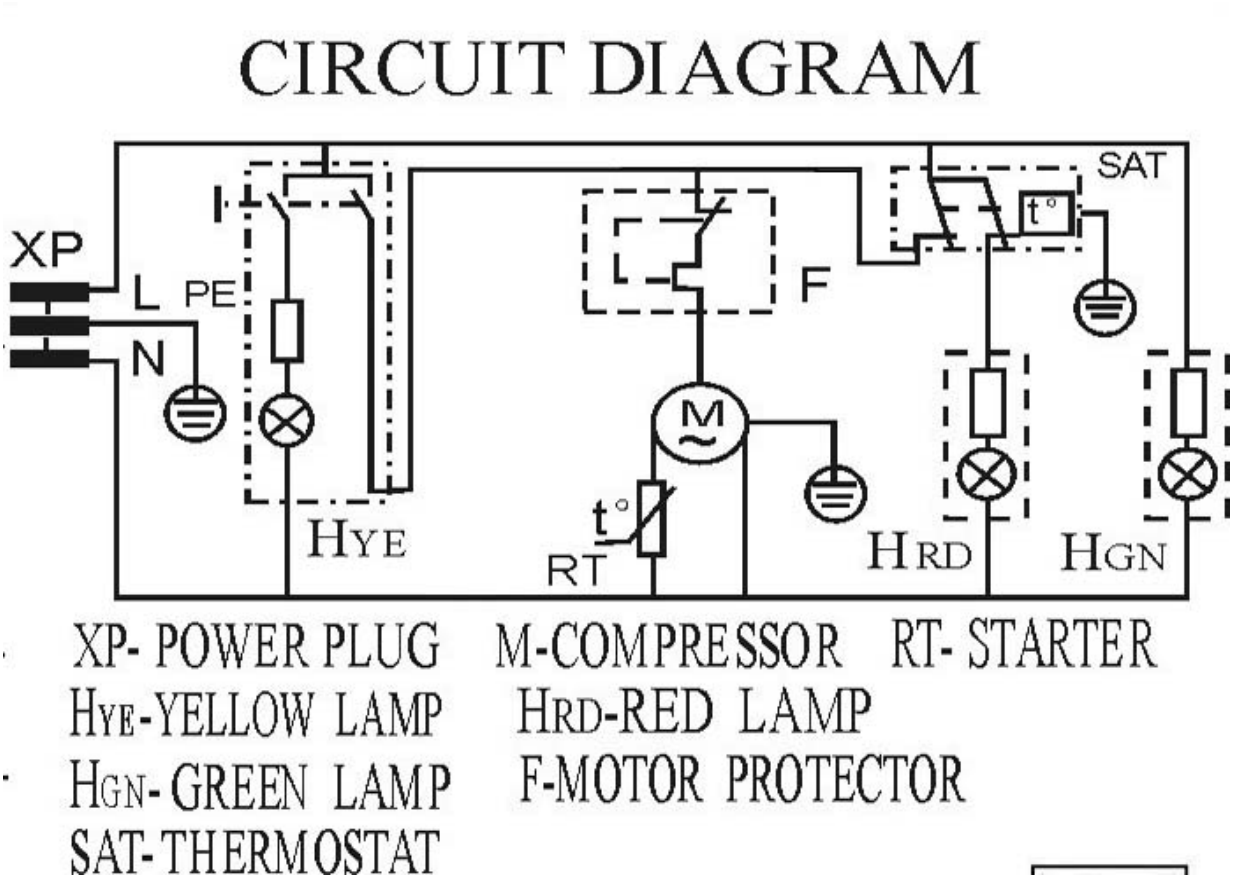
SYSTEM FLOW SCENOGRAPH



1 condensator
2.evaporator
3.Filter drier
4.capillary
5.compressor

CIRCUIT DIAGRAM

1. Brief principle diagram

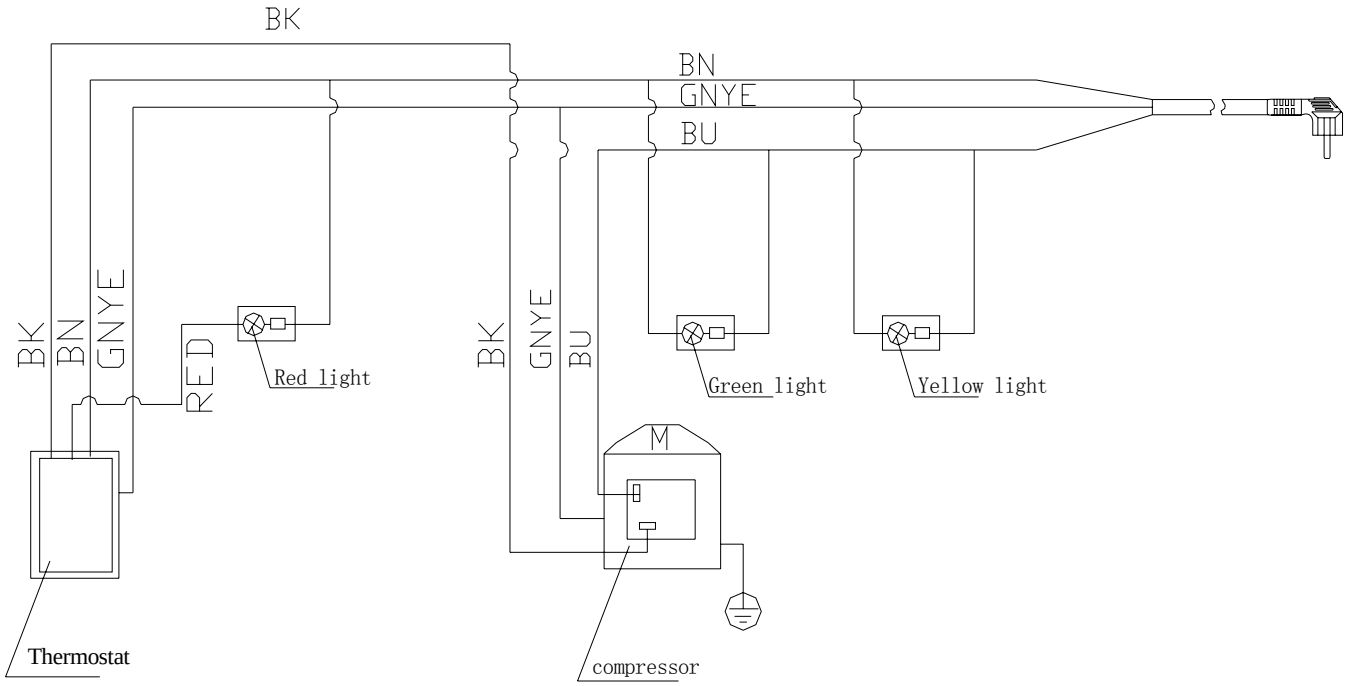


Brief description of principle about Thermostat:

When the temperature in the freezer is higher and reaches the value for starting the machine, the thermostat will be closed, the compressor will run; When the temperature in the freezer is lower and reaches the value for closing the machine, the thermostat will be open, thus the compressor will be stop running.

CIRCUIT DIAGRAM

2. Connect diagram



Notice: BN-brown BU-Blue BK-Black
GNYE-Kelly RED-Red

Normal problems

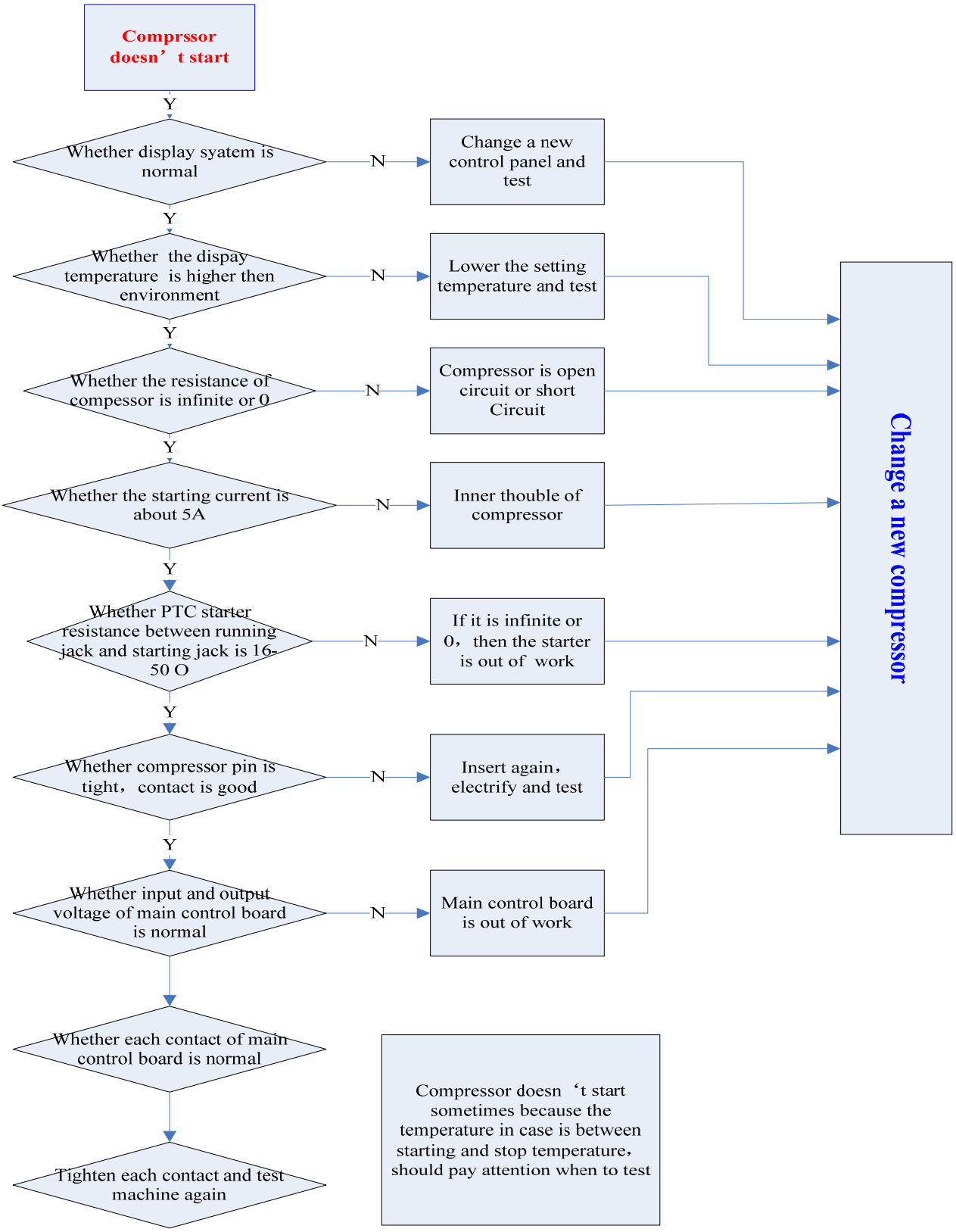
Problems	Reasons	Removing methods
Compressor can not be started	1. Fuse is broken 2. The contact of plug, socket, and cable is not good. Cable broken. 3. The voltage is too low, 10-15% less than rated voltage 4. The knob of temperature controller is at “rest” position. 5. The temperature controller is out of order. 6. Starting relay or thermal protection unit is out of order or broken. 7. Wire broken of motor starting coil or operation coil. 8. The compressor motor is burned or rotator and stator are blocked to dead. 9. There is leakage of high-pressure gas valve or the shaft is embraced to dead.	1. Check if there is short circuit and solve it, if not, change capable fuse 2. Check and connect tightly, or change. 3. Use till voltage rises to rated value or attach a stabilizer. 4. Rotate the knob to wanted position for suitable temperature. 5. Change the controller. 6. Change starting relay or thermal protection unit. 7. Measure using R×1 position of avometer, if there is wire broken, change compressor. 8. Change compressor. 9. Change compressor.
Compressor starts too frequent, operation time too long, but temperature drop in freezer is too slow	1. The distance between temperatures sensing tube of temp. Controller and evaporator are too big. 2. The temperature controller is out of order. 3. Food stuffs in the freezer too much, door opens too frequent and open time too long. 4. The environment temperature is too high, humidity too high, airflow is impeded. 5. The frost layer at the evaporator is too thick. 6. The refrigerant is insufficient or leakage. 7. Compressor efficiency is reduced. 8. The drying filter is blocked.	1 Adjust and make it close to evaporator cover. 2.Change the temperature controller. 3.Reduce them. 4.Put the freezer to suitable place and make air circulate well. 5.Remove frost regularly. 6.Check or supplement refrigerant. 7.Change compressor. 8.Change new drying filter.
Compressor	1.The knob of temperature controller has	1. Change the position to

runs without stop, temperature in freezer is too low	been set to “over cooling” position. 2.The contacting point of temperature controller is adhered. 3.The temperature sensing probe of controller is not placed well, and causes maladjustment 4.Compressor efficiency reduced.	moderate. 2. Repair or change. 3. Adjust to suitable position, normally contact tightly with evaporator cover. 4.Change compressor.
Compressor buzzes and cannot be started, thermal protection unit jump repeatedly.	1. Voltage is too low. 2. Starting relay out of order. 3. The starting coil of starting motor is broken. 4. Compressor does not run.	1. Supplement a stabilizer, adjust to rated value. 2. Change starting relay. 3. Change compressor. 4.The shaft and piston in the compressor is blocked, please change.
After short time of operation, over load protection unit cuts off	1. The voltage is too high. 2. Over load protection unit is not good, it jumps earlier. 3. Starter contacting point is adhered. 4. There is short circuit in compressor. 5. There is mechanical problem in the compressor. 6. Temperature around compressor is too high.	1. Supplement a stabilizer and adjust its value to rated. 2. Change over load protection unit. 3. Change starting relay. 4. Change compressor. 5. Change compressor. 6.Increase heat radiation space.
Too much noise when compressor runs	1. The floor is loose. 2. The freezer body is not stable and in level. 3. When compressor runs, friction between tubes and freezer body causes resonance. 4. Compressor fixing screw is loose. 5. The vibration absorption cushion for compressor fixing is too tight, or too loose or ageing. 6. Compressor inside noise is too big or vibration absorption suspending spring is broken.	1. Reinforce the floor. 2. Make the freezer body stable. 3. Move the tube a little away to avoid friction. 4. Make the screw tight. 5. Adjust the degree of tight or loose of vibration absorption cushion, or change cushion. 6. Change compressor.
There is no frost at evaporator	1. There is serious leakage of refrigerant. 2. There is dirt blocked the capillary or system.	1. Check leakage, make welding repair, and fill refrigerant again. 2. Clean the capillary or change filter.
Frost at evaporator is	1. There is some leakage of refrigerant. 2. There is dirt block, but not serious.	1. Check leakage, make welding repair, and fill refrigerant again.

not full	3. Refrigeration quantity of compressor is reduced.	2Clean the capillary and filter. 3.Change compressor.
Evaporator frosts too rapid, frost layer too thick or frozen to ice	1. Food put into freezer contains water. 2. Too much food has been stored.	1. Please let or make food dry after cleaning, then store it. 2. Store only corrects quantity of food.
Electricity leakage of freezer body, you will feel tingle when touching by hand	1. Freezer body has not been connected to the ground. 2. The compressor terminal contacts body shell and causes short circuit. 3. When the components of electrical system get wet, insulation ability is dropped, electricity leaks.	1. Make the ground connection as stipulated. 2. Change compressor. 3. Check carefully step by step, if insulation is seriously damaged, please change; remove wet parts and put them into drying box to make them dry.
Electricity leakage of fan	1. Environment temperature too high or insulation ability of insulator is dropped. 2. There is short circuit between fan coils or the fan coil is burned.	1. Change fan. 2.Change fan.
Fan too noisy	1. The blade of fan is blocked or fan supporter is loose. 2. The clearance of fan axle is too big.	1. Clear obstacles around the fan or tighten the supporter. 2. Change the fan.
The fan doesn’t run	1. Check if any connection has come off. 2. Check is the fan is burned.	1. Change the fan. 2. Change the fan.
Electricity leakage of temperature controller	1. The service time is too long. 2. The environment is too dirty. 3. Humidity is too high.	1. Change temperature controller. 2. Use brush to remove dust. 3. Make the temperature dry and control the environment humidity.
Temperature controller out of order	1. There is leakage of temperature sensing medium. 2. Damage of cam of contacting point spring, etc.	Change temperature controller.
The probe of temperature sensing tube doesn’t contact evaporator well	It has not been mounted to position or changed during transportation.	Mount it again.

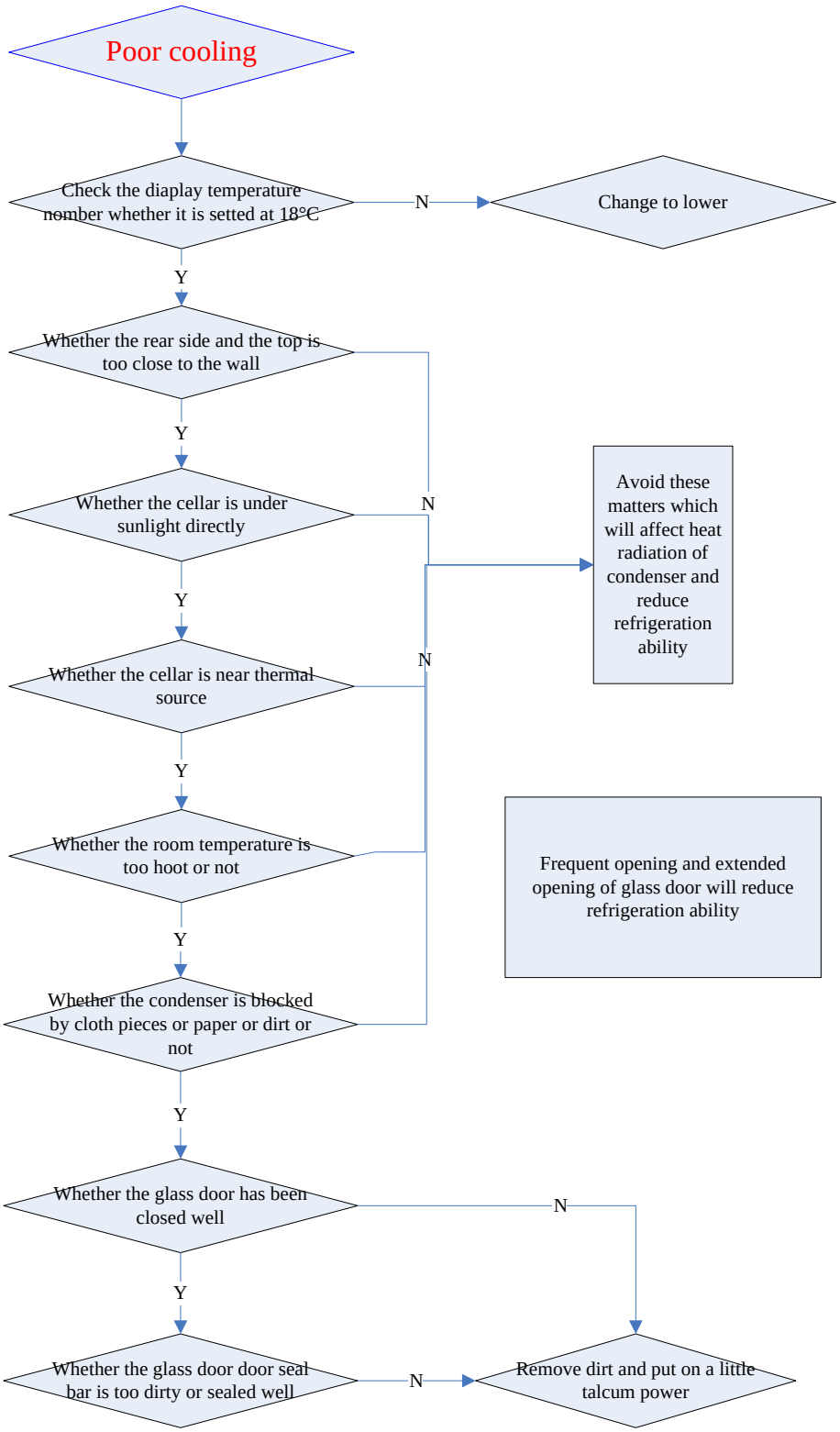
TROUBLE SHOOTING

1.Compressor doesn't start


Comprssor doesn' t start
Y
Whether display syatem is normal
N
Change a new control panel and test
Y
Whether the dispay temperature is higher then environment
N
Lower the setting temperature and test
Y
Whether the resistance of compessor is infinite or 0
N
Compressor is open circuit or short Circuit
Y
Whether the starting current is about 5A
N
Inner thouble of compressor
Y
Whether PTC starter resistance between running jack and starting jack is 16-50 O
N
If it is infinite or 0, then the starter is out of work
Y
Whether compressor pin is tight, contact is good
N
Insert again, electrify and test
Y
Whether input and output voltage of main control board is normal
N
Main control board is out of work
Whether each contact of main control board is normal
Tighten each contact and test machine again
Change a new compressor
Compressor doesn 't start sometimes because the temperature in case is between starting and stop temperature, should pay attention when to test

TROUBLE SHOOTING

2. Poor cooling


Poor cooling
Check the diaplay temperature nomber whether it is setted at 18°C
N
Change to lower
Y
Whether the rear side and the top is too close to the wall
Y
Whether the cellar is under sunlight directly
N
Avoid these matters which will affect heat radiation of condenser and reduce refrigeration ability
Y
Whether the cellar is near thermal source
N
Y
Whether the room temperature is too hoot or not
Frequent opening and extended opening of glass door will reduce refrigeration ability
Y
Whether the condenser is blocked by cloth pieces or paper or dirt or not
Y
Whether the glass door has been closed well
N
Y
Whether the glass door door seal bar is too dirty or sealed well
N
Remove dirt and put on a little talcum power

Sincere Forever

Haier Group

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